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This study compared the pre-college experiences reported by University freshmen receiving financial aid and those of students not identified as being on one of the financial aid programs. Information was collected through a pre-college experience inventory completed by freshmen. The average student not on financial aid had traveled more, was more likely to have attended nursery school and kindergarten, had more books and other possessions in his home, and was more likely to have had private music lessons than the average student receiving aid. The difference in reading and artistic experience backgrounds was insignificant. The small sizes of the observed differences suggest that in terms of pre-college experiences students receiving financial aid and those not receiving aid have similar backgrounds. Present financial aid programs do not attract to the University significant numbers of students from financially restricted homes characterized by cultural deprivation. (Author/KP)

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ARE ECONOMICALLY NEEDY UNIVERSITY FRESHMEN CULTURALLY DEPRIVED?

by

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Student Life Studies

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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Resume

Several financial aid programs are designed to attract to the University students coming from families with severly restricted financial resources. If University students from these homes have not had many educationally relevant experiences prior to college that most students have enjoyed, then the University will have to consider providing compensatory programs to minimize resulting disadvantages.

The purpose of the study reported here was to compare the pre-college experiences reported by University freshmen receiving financial aid and those of students not identified as being on one of the several available financial aid programs. Information was collected through the means of a pre-college experience inventory completed by freshmen in the fall of 1966 at the time of advanced orientation and registration.

Some relevant statistically significant differences were found between the two groups of students and the average student not on financial aid differed from the average student receiving aid in so far as he had traveled more, was more likely to have attended nursery school and kindergarten, had more books and other possessions in his home, and was more likely to have had private music lessons. The reading and artistic experience backgrounds of these students were not different enough to "make a difference."

The small sizes of the observed differences suggest that in terms of pre-college experiences students receiving financial aid and those not receiving such aid have similar backgrounds. Present financial aid programs do not attract to the University significant numbers of students from financially restricted homes characterized by cultural deprivation.

University freshmen differ from one another in terms of their aptitudes, knowledge, skills, values, and experiences. The University's counseling, advising, and student personnel programs are based on this fact. Knowledge that individuals differ from one another, however, is not sufficient and continuing research is needed to demonstrate the extent, origin, and implications of these differences. The present research was designed to reveal relationships between the students' economic backgrounds and their experiences prior to college presumedly relevant for their education. Previous research (Berdie, 1966) reported by the Office of the Dean of Students has revealed that University of Minnesota freshmen are drawn from a broad strata of economic backgrounds. Students come from both impoverished and wealthy families. More recent research (Berdie, 1967) has revealed that University freshmen vary greatly in the experiences they have had prior to college. Some students have traveled much, read many books, and enjoyed many group and individual experiences, and other students have been deprived of most of these experiences. A long history of research has recorded what students know and what they can do, as indicated by psychological and educational tests (Berdie, Layton, Hagenah, and Swanson, 1962). The impact of many experiences, however, cannot be assessed through tests, and consequently the reported presence or absence of the experience itself sometimes provides the best indications of a student's sophistication.

In 1965, Hewer reported that University freshmen coming from the homes of men in the professions tended to receive higher grades than freshmen coming from the homes of skilled tradesmen, sale persons, and clerical workers. Differences between occupational groups were greater for men than for women in some instances. She also reported that the effectiveness with which the grades of college students could be predicted varied according to family background. In an unpublished study Hewer reported significant differences

in the mean college aptitude test scores obtained by students with varying paternal occupations. The mean scores for students from professional homes tended to be the highest, and for men the mean scores for those coming from clerical homes were the lowest. Stein, (1966) has reported significant socio-economic differences among Minnesota high school graduates in personality inventory scores. The social and economic group from which a student comes can make a difference in terms of his ability, achievement, and personality.

All of these studies have reported significant differences between means, but in each instance, extensive overlapping has been found and mean differences, although observable and consistent, are not large. Many students scoring low on ability tests come from wealthy homes, and many scoring high come from impoverished homes. Many socially retarded students come from wealthy homes, and many socially facile students come from poor homes. None of the differences found are large enough to warrant inferences regarding any particular student or small groups of students, but the results reported do substantiate the conclusion that some relationships exist between economic status and educationally relevant variables.

The University of Minnesota, along with many other institutions, has accepted some responsibility for identifying and attracting to college students from homes which in the past have contributed relatively few persons to college enrollments. University and state scholarship programs, and participation in federal programs such as the NDEA Loan Program, the Work-Study Program, and the Federal Grant Program, are some of the means by which the University hopes to provide education to financially handicapped persons.

If large numbers of economically deprived students through these programs come to the University, and if they are handicapped because of experiences

quite different from those of most university students, then the University is doing them a disservice unless it also provides compensatory programs which make these students at least as ready for college as are other students.

The purpose of the research reported here was to compare the pre-college experiences of students on special financial aid programs with the experiences of the student body in general.[1]

Method

In order to gather information regarding the background of University freshmen, an eight page inventory of pre-college experiences was prepared so that students could provide self-descriptions of their experiences. The inventory asks for, in addition to identifying information, occupation of father, parental education, and availability in the home of 37 items or possessions such as world globes, dictionaries, basketball hoops, boats, original paintings, and drawings. Students were presented with a list of 35 authors and asked to indicate if they had read a book by the author, had heard of him but had never read a book by him, or had never heard of him. A similar list of 40 artists was presented and each student was asked to indicate if he had seen a work by the artist, had heard of him but had never seen a picture by him, or had never heard of him. Students were asked to check from a list of 55 organizations those to which their parents belonged. Additional questions were asked concerning the possession of a library card, attendance at nursery school or kindergarten, and attendance at circuses, art galleries, museums, public libraries, and baseball games. Other questions asked concerned traveling, riding on trains, taxi cabs, buses, or airplanes, and the

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[1] A description of the pre-college experiences of the total group of new freshmen can be found in "Pre-College Experiences of University of Minnesota Freshmen," Research Bulletin of the Office of the Dean of Students, Vol. 9, No. 1, July 15, 1967.

number of states and foreign countries visited. Students were asked questions regarding the amount of employment they had experienced, whether they had received music lessons, and the names of books they had read during the past year. They were asked to indicate from a list of 20 youth organizations those to which they had belonged and from a list of 27 childrens' books, those they had read. From a list of 33 persons in public life, including athletes, politicians, businessmen, statesmen, and educators--each student was asked if he knew who the person was, if he had heard of him, but could not identify him, or if he had never heard of him.

Almost every freshmen entering the University in the fall of 1966 completed the inventory during the advanced Orientation-Registration program. They were told that the responses to the inventory would be used for research purposes only and would have no bearing on decisions made about individual students.

An attempt was made to check on the validity of responses by including in the lists of names of authors and artists persons who (as far as the writer was concerned) did not exist (Allen, 1966). For example, the name of Henry Martin was included among the names of authors and only one percent of the students indicated that they had read a book by Martin and an additional thirteen percent reported they had heard about him but had not read a book by him. Eighty-six percent of the students indicated that they had never heard of him. To what extent these responses reflect deliberate distortion and to what extent distortion resulting from similarity of names is not known but the evidence does suggest that the results obtained through the inventory have some validity. All such questionnaires contain some error due to deliberate distortion and to confusion related to the recall of events of questionable significance to the individual.

From the Bureau of Loans and Scholarships lists were obtained of names of 872 students participating in various freshman financial aid programs. Of these, data were available for 781. The number of students in each program is shown in Table 1/

Insert Table 1 about here

Educational Opportunity Grants and National Student Defense Loans were approved for freshmen whose predicted grade point average, on the basis of high school grades and test scores, was 1.7, or C-. Financial need was based on information provided through the College Scholarship Service, and no grants were approved for students whose parental contribution to the cost of their freshmen year was higher than $600.00. Students were appointed to the Work-Study Program if they were in good academic standing, that is, had permission to enroll for the following quarter, and if family income was $3,200.00 or less per year for the parents and one student dependent. Any family which was receiving or was eligible to receive financial assistance from public or private welfare programs would normally be eligible for this program. After low income students had been assisted, additional students were eligible on the basis of need. Freshmen Scholarships were awarded on the basis of combined high school rank and Minnesota Scholastic Aptitude test score. Applicants were ranked and the students with the highest indices were selected. Students were selected when the parental contribution to the cost of the freshmen year was calculated on the basis of the College Scholarship Service, and found to be less than the necessary expenses for freshmen. Thus, for many students academic promise was considered in the selection, and for all, financial need was one base for selection.

A large proportion of students (62 percent) participated in more than one program. Because of the selection procedures and the criteria used, one can conclude that students on financial aid first represented a group of students coming from homes with fewer financial resources than homes of most students and secondly, that this group of students contained a greater proportion of high ability and high achieving students than did the total freshmen population. Data regarding the first assumption are revealed in this report; data regarding the second assumption are contained in University records but as yet are not available for analysis.

In order to obtain a sample of students not on financial aid, 200 inventories were drawn for men and 200 for women, from the College of Liberal Arts, the College of Agriculture, Forestry, and Home Economics, and the General College. Only 200 men were selected from the Institute of Technology. Included among the inventories for these selected samples were some for students also included in the financial aid groups. These inventories were withdrawn from the sample and the non-financial aid group consisted only of the students whose names did not appear on the financial aid lists. Some students, perhaps including some in the non-aid sample, were receiving financial aid from sources outside of the University and a few persons could have been receiving financial aid from the University although their names did not appear on the lists. Undoubtedly, some of the students in the non-financial aid sample were working on jobs obtained through the University Student Employment Office and thus in a sense were being financially subsidized.

The responses to the inventory were punched on IBM cards and distributions of responses preparad by sex, college, and by financial aid status. The comparisons presented in this report are data descriptive of the total sample excluding students on financial aid, and the total group of students receiving financial aid.

Several scores were computed from the inventories. The number of home possessions was counted and provided one score. The number of magazines in the home provided another score. The number of family organizations provided an additional score. One score consisted of the number of states visited, another score of the number of foreign countries visited, and another score of the number of jobs held. Other scores were based on the number of books read in the past year, the number of youth groups to which the student had belonged, and the number of children's book he had read.

In other instances analysis was based on responses to individual items.

RESULTS

Results of the comparisons of students on financial aid and students not on financial aid are presented in Tables 2 through 9. In each instance, figures are presented separately for men and women. The sex differences are obvious. The groups are not divided according to the college in which the student registered, in spite of the fact that other analyses reveal significant and sometimes large differences among the colleges. The relatively small number of students discouraged analyses by college. Some of the results reported here, however, are influenced by college differences as much as they are influenced by differences in financial status.

Table 2 reports results derived from scores obtained with the inventory. Means and standard deviations for the groups are presented, and the significance of the differences between means is evaluated using "t" tests. In the other tables the figures reported are percentages and the significance of differences is inferred from Chi Square Tests. The Chi Square Tests were calculated using the frequencies on which the percentages were based, not on the percentages. Accompanying each comparison is a probability figure presented as an aid in assessing the statistical significance of differences.

Insert Table 2 about here

Among the men, significant differences were found in 6 of the 9 comparisons of mean scores, and the same number of differences were significant among the women, although one mean difference which was significant for the men was not significant for the women, and similarly a difference significant for the women was not significant for the men. The questionnaire presented 37 possessions frequently found in the home and the average man receiving financial aid reported 20.87 of these in his home as compared to the 23.56 reported by men receiving no financial aid. The size of this difference is equal to about one-half a standard deviation, small enough to lead to the conclusion that the difference is not of great practical significance. Most students, regardless of whether they are on financial aid, come from homes with many amenities and educationally relevant possessions.

The meaning of this difference can be clarified somewhat by referring to the concept of overlap. If we accept an overlap figure which ranges from zero to 100 percent as giving the percent of scores in one distribution that can be matched by scores in another distribution, then when the distributions of the two groups are identical, the overlap is 100 percent. When the separation of two groups is total, the overlap is zero percent. Using tables provided by Tilton (1942) the percentage of overlapping in the distributions of home possessions is 79 percent. If the two distribution curves for these two samples were plotted on the same base line, 79 percent of all of the cases would fall within the area under both curves, 21 percent of the subjects would fall in one of the two areas under only one curve. One might infer from this, and this is an extremely risky inference, that about 10 percent of the financial aid students have fewer possessions in their homes than do practically any of the non-financial aid students, and on the other hand, that about 10 percent of the non-financial aid students have more possessions in their homes than do practically any of the financial aid students. The two groups of men do differ, but not by much. Figures for the women regarding home possessions are remarkably similar to those for men.

For both men and women the magazines available in the home differentiate the financial aid and non-financial aid groups. For this, however, as for the other of the variables which were scored, the differences were not as great in terms of overlapping as they were for the home possessions. In other words, although the financial aid and non-financial aid students

differed in terms of magazines in the home, the mean difference amounted to less than one magazine and most of the financial aid students had as many magazines in their homes as did the large proportion of non-financial aid students.

For the men, the number of organizations to which their parents belong did not differentiate the two groups, although for the women this difference was small but statistically significant. The parents of the average man, regardless of whether he is or is not on financial aid, belonged to about 3 and one-half organizations. For the women, those on financial aid reported their parents on the average belong to about 3 and one-half organizations, but girls not on financial aid reported that their parents belong to slightly over 4 organizations.

The average man on financial aid has been in 9 different states, as compared to the 13½ states reported by men not on financial aid. The figures for women are roughly the same. The average student not on financial aid has been in one country other than the United States whereas far fewer students on financial aid so report.

Among both men and women, the two groups do not differ in terms of the number of jobs held. The similarity is not surprising when one recalls that obtaining work for a youth is substantially related to his socio-economic status. Among impoverished youth the need may be there but the opportunity may be absent.

The groups do differ in terms of the number of books they have read in the past year; the difference is about three quarters of a book for boys and one book for the girls. Contrary to expectations, students on financial

aid have read more books. Among neither boys nor girls are there differences between financial aid and non-financial aid students in the number of youth groups to which they have belonged or the number of children's books they have read.

Table 3 shows the proportion of men and women in the financial aid group reporting various numbers of books in their homes. Practically all of the students have at least 10 books in their homes and almost one-half of the students have more than 100 books, but considerably more of the non-financial aid students have this latter number of books in the home than do the financial aid students. The differences for both sexes are statistically significant, and the differences are large enough to be meaningful.

Insert Table 3 here

Table 4 shows that 74 percent of the men not receiving aid possess library cards as compared to 68 percent of the men receiving aid. Correspnding percentages for women were 91 percent and 85 percent. These differences again attain statistical significance, but are not large, although they do support the conclusion that students on financial aid do not have as much access to books as do other students.

Insert Table 4 here

When students are compared on the basis of the authors they have read, the conclusions for the men are somewhat similar. Most of the comparisons indicate that men not on financial aid have read more authors or are better acquainted with them than are men on financial aid, but even the differences that attain statistical significance are not large. Table 5, for example, shows that 40 percent of the men not receiving financial aid have read Salinger, as compared to 34 percent of those receiving financial aid. Corresponding figures for the women are 53 and 57 percent, an indication that the women receiving financial aid have tended to read Salinger to a greater extent than the women not receiving financial aid. Concerning Dostoevski, again more of the men not receiving financial aid have read him. More of the men not receiving financial aid have read Michener, but for the women the figures are the same for the two groups.

Insert Table 5 about here

Regarding reading backgrounds, one might conclude that among the men, a slight trend was found for students not receiving financial aid to have more frequently read the authors listed when compared to men receiving financial aid. Among the women, the trend was reversed, with more women receiving financial aid reading these authors as compared to women not receiving financial aid. The differences in all cases were small, and the differences between the two women's groups were smaller than those among the two men's groups. Essentially, the reading backgrounds of students receiving and not receiving financial aid tend to be about the same.

When comparisons are made in the artistic experiences of students, as revealed by the inventory, the conclusion is quite the same. For example, Table 6 shows the proportion of each group who have had acquaintance with the work or name of Raphael; 55 percent of the men receiving financial aid have seen a picture of him, and 48 percent of those not receiving financial aid. Among the women, 67 percent of those receiving aid have seen a picture; 65 percent of those not receiving aid.

The differences in terms of the art experience are small. When the men and women on or not on financial aid are compared on the basis of proportions who have seen pictures of each of the artists, in some cases the financial aid students and in some cases the non-aid students report more of these experiences. There is a slight tendency for the students in the financial aid group more often to report seeing pictures than is true of the non-financial aid students, but always the differences are small. On the basis of these data, one cannot conclude that students coming from a more secure financial background have better or more artistic experiences than other students and if anything, the evidence might point a trend slightly in the opposite direction.

Table 4 shows comparisons for some of the other experiences reported. The students on financial aid, both men and women, less often report that they attended nursery school or kindergarten. Fewer of these students report they have ridden in an airplane or in a train. Slightly more than one-half of students not on financial aid have ridden in airplanes, slightly less than one-half of those on financial aid.

The two groups also differ in terms of musical experiences as shown by private music lessons. Only about one-third of the men on financial aid report such lessons as compared to almost one-half not receiving aid. Among the women, the difference is smaller, but still in the same direction, and 60 percent of the women on financial aid report music lessons as compared to 71 percent of the other women.

Students receiving financial aid presumedly are selected because of need and ability, and one would expect that indices of economic status would reveal a difference between the groups of students receiving or not receiving aid. Several years ago Warner proposed that the best index of economic status was the occupational level and education of the father of the family. To what extent did these groups with whom we are concerned here differ in terms of parental occupation and education?

Table 7 shows the distributions for paternal occupation for the men and women not receiving and receiving financial aid. For both sexes the difference is statistically significant. Among the men receiving aid, 7 percent reported fathers who were classified as professionals as compared to 13 percent of the men not receiving such aid. Similar proportions for women were 7 and 18. The largest difference observed is found in the farm category where 22 percent of the men receiving and 12 percent of the men not receiving aid reported fathers who owned or managed farms. Proportions for women were 17 and 7 percent.

Insert Table 7 about here

About one fifth of the students who received financial aid in the University of Minnesota come from farms, whereas closer to one tenth of all University students come from farms. The agricultural sector of the state is well represented, in fact well over-represented, among students receiving aid. The differences in occupational level are as would be expected, with the students receiving aid tending to come from families classified in lower level occupations, but the differences are not large, and a surprisingly large proportion of students receiving financial aid come from homes with relatively high occupational classifications,

Table 8 shows the distributions of fathers' education for the groups, and the differences here are in the same direction as those for paternal occupation. About one quarter of the men receiving financial aid reported fathers who had not gone beyond the eighth grade as compared to about 15 percent of the men not receiving such aid. Differences were just as large for the women. At the other educational extreme, 38 percent of the men not receiving educational aid reported fathers with some college experience as compared to 20 percent of men receiving aid. Proportions for women were 44 percent and 28 percent. That most financial aid students do not come from uneducated homes is revealed by the figures showing that 59 percent of the men and 65 percent of the women on financial aid come from homes where the father is at least a high school graduate.

Figures concerning mothers' education are quite similar.

Insert Table 8 about here

Insert Table 9 about here

Again, students receiving financial aid tend to report mothers with less education than do students not receiving such aid and the differences tend to be largest at the extremes. 77 percent of the men and 74 percent of the women on financial aid report mothers who are at least high school graduates and 9 and 8 percent report mothers who are college graduates.

CONCLUSIONS

The differences in backgrounds and pre-college experiences of University students have educational relevance. Because of the selection used in allocating financial aid, students receiving and not receiving such aid differ in terms of economic background and to some extent, in terms of ability. Students receiving financial aid presumedly have fewer economic resources and greater academic potential than are found among the total University entering class.

The results here suggest that students coming from economically disadvantaged homes in some ways are slightly handicapped culturally and have had somewhat fewer experiences of educational relevance than other students. As children they had less formal education; they have traveled less; they have fewer books and magazines in their homes, and they have access to fewer home possessions than do other students.

In every instance, however, these differences are small and the amount of overlapping is great when students on and not on financial aid are compared. The evidence suggests that the amount of reading and the art experiences of these students are quite the same and differences found always are small.

One cannot conclude from this that so-called cultural experiences are not related to economic status, but one might conclude that the University, in attracting students from economically limited homes, is tending to attract mainly students who have cultural backgrounds quite typical of most University students. In other words, the University is not attracting or recruiting students from economically impoverished homes which are also culturally impoverished. The type of impoverished students now coming to the University needs programs, both instructional, compensatory, and activities, quite similar to those required by most students. The culturally disadvantaged student is not being attracted to the University in large numbers. Financial aid programs, as they have been operating, are helping students who are motivated and prepared for college to achieve a University education. They perhaps are doing little to attract to the University students from backgrounds atypical of those of students who have come here in the past.

Table 1 - University of Minnesota freshmen of 1966 receiving financial aid, by programs, included in analysis

Program	Men	Women
Freshmen Educational Opportunity Grants	226	221
Work Study Program	29	44
Freshmen Scholarships	160	125
National Defense Student Loans	264	252

Table 2 - Comparison of freshmen entering the University of Minnesota in the fall of 1966 who received financial aid from the University and a random sample of students not receiving such aid.

	MEN						WOMEN					
	Aid		No Aid				Aid		No aid			
N	385		486				396		316			
NUMBER OF	M	SD	M	SD	t	P	M	SD	M	SD	t	P
Home possessions	20.87	4.88	23.56	5.18	7.87	< .01	20.68	5.26	23.28	5.47	6.43	< .01
Magazines in Home	5.52	3.19	6.19	3.43	2.96	< .01	5.89	3.36	7.01	3.37	4.43	< .01
Parents' organizations	3.40	2.55	3.64	1.57	1.63	> .05	3.46	2.13	4.18	2.24	4.39	< .01
States visited	9.42	7.71	13.52	9.60	6.99	< .01	10.28	8.30	13.70	9.53	5.04	< .01
Countries visited	.60	.79	1.02	1.14	6.48	< .01	.80	1.79	1.20	2.25	2.58	< .01
Jobs held	2.65	1.56	2.61	1.36	.40	> .05	2.20	1.26	2.17	1.18	.34	> .05
Books read	4.70	4.12	3.92	4.51	2.66	< .01	7.16	4.78	6.07	5.10	2.91	< .01
Youth groups	3.40	1.79	3.21	1.62	1.67	> .05	3.68	1.37	3.60	1.27	.81	> .05
Children's books read	8.95	4.09	9.15	4.42	.69	> .05	13.02	4.76	13.11	4.87	.24	> .05

Table 3 - Number of books in their homes reported by freshmen entering the University of Minnesota receiving and not receiving financial aid from the University.

		Men		Women	
	N	aid 385	no aid 486	aid 396	no aid 316
Number of books in home					
0 - 9		2	0	2	1
10 - 24		11	9	9	3
25 - 49		19	18	19	16
50 - 99		26	20	23	23
100 - up		39	51	45	57
No response		1	1	1	1
		$\chi^2 = 15.31$		$\chi^2 = 12.92$	
		$P < .01$		$P < .05$	

Table 4 - Proportions of freshmen entering the University of Minnesota in the fall of 1966 receiving and not receiving financial aid from the University reporting selected pre-college experiences.

	Men		Women	
	aid	no aid	aid	no aid
N	385	486	396	316
Possessing library card	68	74	85	91
Do not have library card	32	26	15	9
	$\chi^2 = 4.01$, $P < .05$		$\chi^2 = 5.06$, $P < .05$	
Attend nursery school	9	16	8	16
Did not attend nursery school	91	84	92	84
	$\chi^2 = 10.37$, $P < .01$		$\chi^2 = 14.13$, $P < .01$	
Attend kindergarten	63	82	78	82
Did not attend kindergarten	37	18	22	18
	$\chi^2 = 39.89$, $P < .01$		$\chi^2 = 1.78$, $P > .05$	
Ride in an airplane	45	56	45	55
Never rode in airplane	55	44	55	45
	$\chi^2 = 12.23$, $P < .01$		$\chi^2 = 7.05$, $P < .05$	
Ride in a train	73	82	80	88
Never rode in a train	27	18	19	12
	$\chi^2 = 9.92$, $P < .01$		$\chi^2 = 9.11$, $P < .01$	
Had music lessons	35	48	60	71
Never had music lessons	65	51	40	29
	$\chi^2 = 15.93$, $P < .01$		$\chi^2 = 11.02$, $P < .01$	

Table 5 - Comparison of Proportions of freshmen entering the University of Minnesota in the fall of 1966 who received financial aid from the University and those who did not who have read books by selected authors

	Men		Women	
	Aid	No aid	Aid	No aid
N	385	486	396	316
Author				
Salinger				
Read book	34	40	57	53
Heard of author	57	50	38	43
Never heard of author	9	10	5	4
	$\chi^2 = 4.21$		$\chi^2 = 1.42$	
	$P > .05$		$P > .05$	
Dostoevski				
Read book	21	28	37	28
Heard of author	36	26	35	37
Never heard of author	42	46	28	35
	$\chi^2 = 16.93$		$\chi^2 = 7.25$	
	$P < .01$		$P < .05$	
Michener				
Read book	32	44	46	46
Heard of author	42	37	37	40
Never heard of author	25	19	16	14
	$\chi^2 = 17.21$		$\chi^2 = 2.71$	

Table 6 - Comparison of Proportions of freshmen entering the University of Minnesota in the fall of 1966 who received and did not receive financial aid from the University acquainted with works of Raphael.

	Men		Women	
	Aid	No aid	Aid	No aid
N	385	486	396	316
Seen a picture by him	55	48	67	65
Heard of him	31	34	27	26
Never heard of him	14	17	6	9
	$\chi^2 = 4.46$		$\chi^2 = 1.38$	
	$P > .05$		$P > .05$	

Table 7 - Paternal occupation for University of Minnesota freshmen receiving and not receiving financial aid from the University.

(Percentages)

	Men		Women	
	Aid	No aid	Aid	No aid
N	385	486	396	315
Occupation				
Profession	7	13	7	18
Own or manage business	10	11	10	17
Office Work	7	9	9	7
Sales	8	10	7	11
Own or manage farm	22	12	17	7
Skilled tradesman	14	16	17	8
Factory worker	9	6	8	5
Other	20	21	21	23
No response	5	2	5	3
	$x^2 = 36.77$		$x^2 = 55.93$	
	$P < .01$		$P < .01$	

Table 8 - Paternal education for University of Minnesota freshmen receiving and not receiving financial aid from the University. (Percentages)

	Men		Women	
	Aid	No aid	Aid	No aid
N	385	486	396	315
Amount of Education				
Some grade school	3	2	3	0
Completed 8th grade	24	14	21	10
Some high school	11	9	10	11
Graduated high school	32	29	27	25
Business or trade school	7	8	10	9
Some college	11	16	15	15
Graduated college	7	16	10	19
More than one degree	2	6	3	10
No response	1	-	1	1
	$x^2 = 44.10$		$x^2 = 48.96$	
	$P < .01$		$P < .01$	

Table 9 - Maternal education for University of Minnesota freshmen receiving and not receiving financial aid from the University. (Percentages)

	Men		Women	
	Aid	No Aid	Aid	No aid
N	385	486	396	315
Amount of Education				
Some grade school	2	1	1	0
Completed 8th grade	11	8	12	3
Some high school	10	9	14	9
Graduated high school	46	45	37	40
Business or trade school	8	8	10	12
Some college	14	13	19	23
Graduated college	8	14	8	10
More than one degree	1	1	-	3
No response	-	-	-	1
	$\chi^2 = 14.37$		$\chi^2 = 33.66$	
	$P < .05$		$P < .01$	

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